

Quarterly  
Surveillance Report



January-March  
2010

## Well Controlled Asthma

Current guidelines<sup>1</sup> define well controlled asthma for patients aged 12 and up as:

- Symptoms no more than two days per week
- Nighttime awakenings no more than two days per month
- Albuterol use for symptoms no more than two days per week
- No activity limitations
- FEV<sub>1</sub> or peak flow values greater than 80% predicted
- An Asthma Control Test score of 20 or greater
- No more than one exacerbation requiring oral steroids per year

# The Health Impact of Uncontrolled Asthma

## Control: The Goal of Asthma Therapy

Asthma control is a central tenet of the Expert Panel Report-3 (EPR-3) Clinical Asthma Guidelines<sup>1</sup>. In fact, achieving and maintaining well controlled asthma is the primary goal of asthma therapy. The guidelines define criteria for well controlled asthma (see box to the left). Patients who do not meet one or more of these criteria are classified as either not well controlled or very poorly controlled. The ongoing assessment of a patient's level of asthma control is the key tool outlined in the guidelines to drive clinical decision making for asthma treatment. The guidelines emphasize that regardless of a patient's underlying disease severity, with proper treatment all asthma patients should expect to achieve well controlled asthma, leading lives free of frequent symptoms and activity limitations.

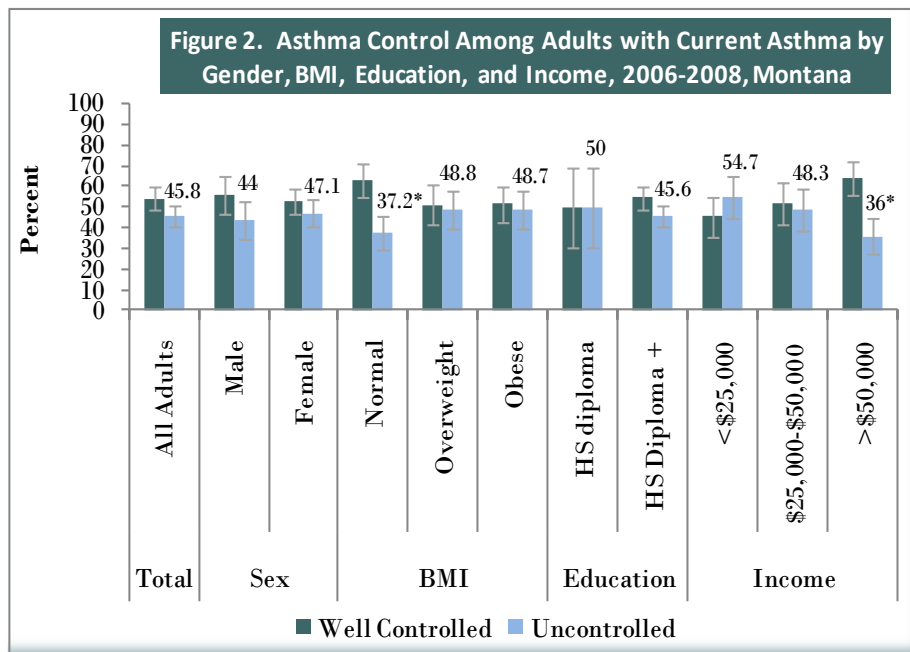
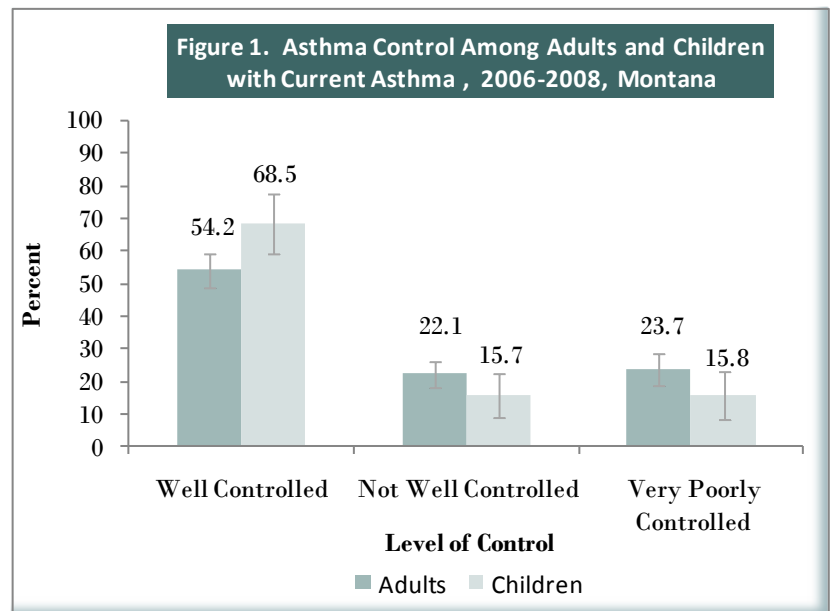
## Assessing Asthma Control in Montana

The Montana Asthma Call-back Survey is a telephone survey of non-institutionalized adults aged 18 and over. Participants are recruited from the Behavioral Risk Factor Surveillance System survey if they indicate that they had or currently have asthma. These individuals are then called back and asked more in-depth questions about their experience with asthma. Montana has participated in this survey, sponsored by the Centers for Disease Control and Prevention, since 2006. The most knowledgeable parent/person serves as a proxy for child responses in the call-back survey.

For the purpose of this report, the levels of control among Montanans were estimated from the Asthma Call-back Survey for adults and children with current asthma<sup>2</sup>. An algorithm combining responses from several questions about impairment was used to classify the level of control. The algorithm includes three measures. Activity limitations were not included due to inconsistency in the time interval asked in the survey question. The not well and very poorly controlled categories were combined for analysis purposes as 'uncontrolled'. Of the three years of data available, 767 adults and 143 children with current asthma were surveyed. The following report includes weighted statewide estimates on well controlled and uncontrolled asthma among adults and children in Montana based on these respondents.

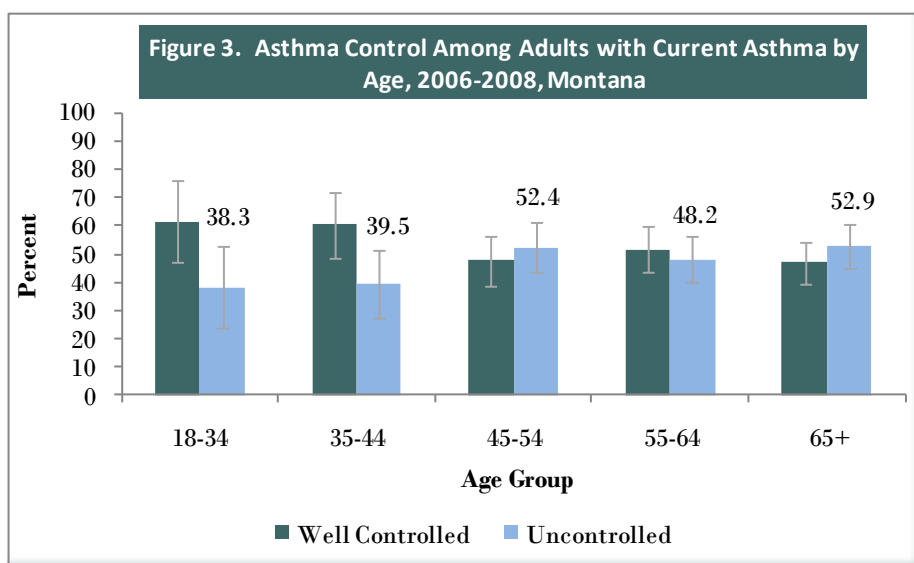
## The Epidemiology of Asthma Control in Montana

- Nearly half (45.8%) of adults and over 30% of children with asthma have uncontrolled asthma. (Figure 1)
- Overall, an estimated 34,400 adults and 5,200 children in Montana live with uncontrolled asthma and are not achieving the goals of asthma therapy as outlined by the EPR-3 Guidelines.
- If activity limitations were included in the control algorithm, the percent of people with asthma who have uncontrolled asthma would rise to 65.7% of adults (49,300) and 59.6% of children (9,900).
- Also of concern is the proportion of individuals with asthma in Montana whose disease is very poorly controlled ( 23.7% of adults and 15.8% of children). (Figure 1)



## Groups at risk for uncontrolled asthma

- Individuals with lower levels of income (Figure 2): 54.7% of asthmatic adults with an annual income of less than \$25,000 have uncontrolled asthma compared to only 36% of those who earn over \$50,000.
- Body Mass Index (BMI) (Figure 2): People of normal weight are more likely to have well controlled asthma than uncontrolled asthma. Though not statistically significant, the percent of uncontrolled asthma is higher among overweight and obese individuals with asthma than those of normal BMI.



- Other potential risk factors: As age increases, the frequency of uncontrolled asthma increases. (Figure 3) However, the sample size for this survey is small and the relationship is not statistically significant.

I -95% confidence intervals

\* -Non-overlapping 95% confidence intervals.

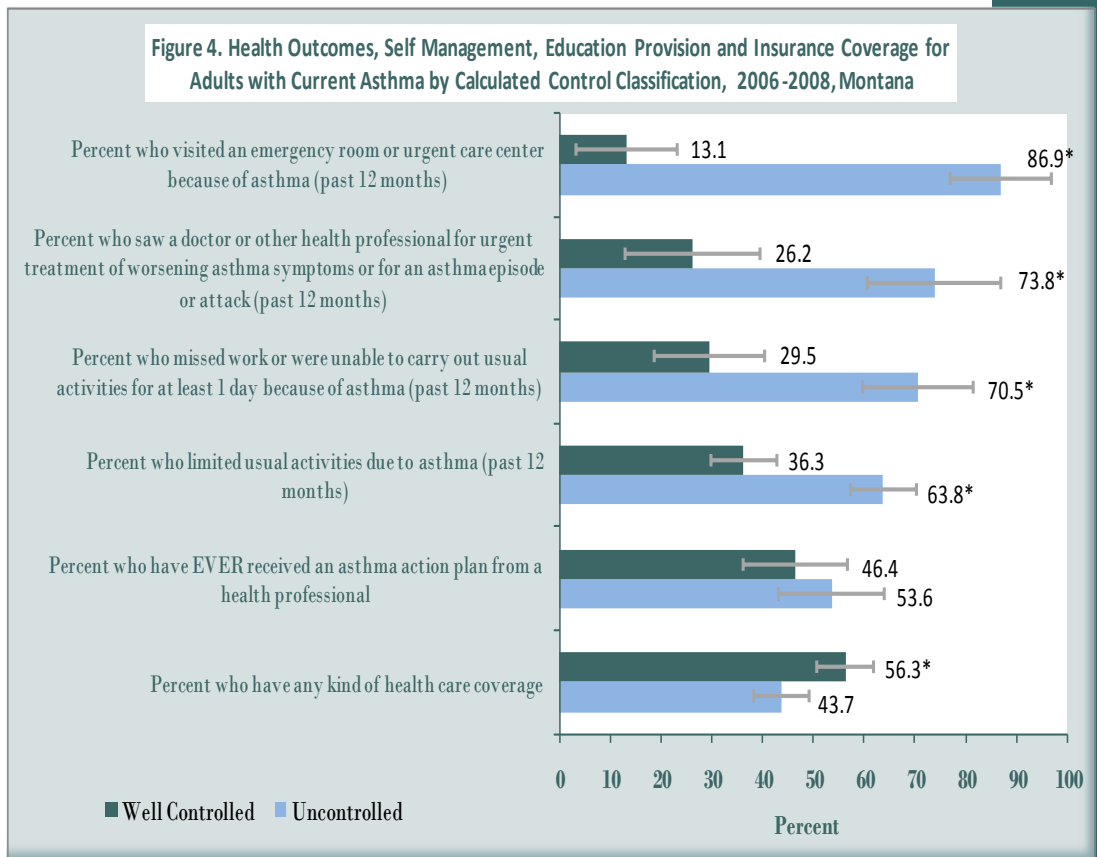
## Health impacts of uncontrolled asthma

- Significantly more individuals who visit the emergency room, seek urgent care treatment, miss work and limit their activities due to asthma have uncontrolled asthma rather than well controlled asthma. (Figure 4)

- 87% of individuals who visited the emergency room for asthma had uncontrolled asthma compared to 13% of individuals with well controlled asthma. (Figure 4)

- Individuals who have insurance are significantly more likely to have well controlled asthma than uncontrolled asthma. (Figure 4)

- Individuals who have received an asthma action plan are equally likely to have well controlled or uncontrolled asthma. (Figure 4)



I -95% confidence intervals \* -Non-overlapping 95% confidence intervals.

## Discussion and Key Clinical Recommendations

Almost half of the adults with asthma and one third of the children with asthma in Montana have uncontrolled asthma. Adults with lower levels of household income are at greater risk for uncontrolled asthma. Higher BMI and increasing age also appear to affect asthma control. Individuals who visit the emergency room or urgent care clinic due to asthma and limit their usual activities because of the disease are much more likely to have uncontrolled asthma than well-controlled asthma.

**Based on these findings, consider the following recommendations to improve asthma control:**

- Evaluate the level of asthma control at each visit based on EPR-3 criteria<sup>1</sup>.
- To assess control, use a validated clinical tool like the Asthma Control Test: [www.asthmacontrol.com](http://www.asthmacontrol.com)
- Prescribe all patients with persistent asthma an inhaled steroid controller medication.
- Be cognizant of a patient's ability to afford controller medication. Consider selecting equally effective but lower cost options, and link patients to medication assistance programs if they find the costs to be prohibitive.
- Provide patient education on:
  - Disease self-management and use of a personalized asthma action plan
  - Proper inhaler technique and the importance of adherence to medical therapy
  - Avoiding and mitigating environmental triggers
  - The need for ongoing, periodic clinical evaluation of asthma control with a primary care provider
- For severe and difficult to control asthma, consider referral for specialty consultation (Pulmonology or Allergy).
- For help implementing any of these suggestions, contact the Asthma Control Program at [kloveland@mt.gov](mailto:kloveland@mt.gov). We can provide clinical tools such as the Asthma Control Test, Asthma Action Plans and educational materials free of charge.
- Learn more about asthma education by attending the "National Asthma Educator Certification Review Course" on April 23-24th in Billings. Visit <http://dphhs.mt.gov/asthma> for more information.

### Footnotes

- National Heart lung and Blood Institute (US). Expert Panel Review-3 Guidelines to Asthma Management. National Institutes of Health (US); 2007 Aug. NIH Pub. Available at: <http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf>
- Current asthma is assessed by responding yes to the questions:
  - Have you ever been told by a doctor, nurse, or health professional that you had asthma? and Do you still have asthma?
  - or- Have you taken asthma medication in the last year?
  - or- Have you had asthma symptoms in the last year?

# The Health Impact of Uncontrolled Asthma



For more information, visit the Asthma Control Program website: <http://dphhs.mt.gov/asthma>



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## LOOK INSIDE FOR INFORMATION ON:

- Adults with uncontrolled and controlled asthma in Montana
- Asthma control in children
- Health outcomes among adults with uncontrolled asthma
- Clinical suggestions for helping your patients achieve asthma control

The Montana Asthma Control Program is funded through the Montana State Legislature and the Centers for Disease Control and Prevention. The goal of the program is to improve the quality of life for all Montanans with asthma. For more information visit our website at <http://dphhs.mt.gov/asthma>

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